(2)   No specification amendments are required.

(3) REMARKS

RESPONSE TO REJECTION UNDER SEC. 103

The issue is whether the present invention is obvious in view of specific references chosen by the Patent Office. In light of the specific references cited, it would seem that there may be a misunderstanding or misinterpretation of the present disclosure which should be laid to rest before pointing out specific failings of those references with respect to relevancy and materiality to the present invention.

A basic aspect of the present invention is to provide Web cache consistency assurance, and to do so in a scalable fashion. The independent claim, taken in view of the Detailed Description therefore provides for "a subscription manager in the content server for specifying all ...proxy servers...subscribed to ...content..." and "a consistency manager also in the content server for notifying all...subscribed...for discarding the cached content...when...updated...." Thus, a key advantage of the present invention is that it gives content owners more control over their content. Content owners want their customers, e.g., Browser Clients to have access to the most up to date version of a file-of-interest, e.g., objects like the latest news headlines, scooping the competition; latest product prices, and the like. In other words, priorities of the content owners are (1) providing correct, up to date information, (2) providing a remembered enjoyable Web experience, and (3) reducing delivery costs. Content owners are known to practice "cache-busting," marking Web objects as uncacheable as a means for providing them with more control over their content, but at a possible cost of degrading the Client experience (e.g., by increasing response time to get a current price), and increasing the delivery cost by increasing the number of requests that must be handled. The present invention obviates the need for such practices.

It is further important to distinguish internet service providers (ISPs) priorities. ISPs seek to (1) reduce the cost of providing Internet service, (2) provide good customer experiences, and (3)

provide correct, up to date information to customers. Prior art proxy caches are effective at providing for the first two objectives, but not the third. Mor ov r, cache-busting by cont nt owners reduces the ability of proxy caches to meet the ISPs' first to goals.

As a result, with the prior art, the situation is less than optimal for the content owners, the ISPs and the Clients.

The primary reference, U.S. 6,260,061 (Krishnan et al.) is alleged to disclose applicants' claim for a ". . .subscription manager in the content server (manager 117, FIG. 1) to specify all of the proxy servers (107, FIG. 1) that are subscribed to a content file stored in the content server, see. . .." Action page 3. This assessment is incorrect. Krishnan et al. are developing from an ISP's perspective, where local network links are cheap to use, while remote network links (such a a link to the Internet) are expensive. It is in the best business interest of the ISP to minimise remote network link utilization, even if it means using more local network bandwidth. This is Krishnan's goal; to more effectively manage a set of proxy caches located around a local network, e.g., an intranet or a few intranets of a partner ISP, in order to minimize the amount of traffic that has to go onto the expensive Internet link. This has an objective to reduce costs for the ISP. Krishnan et al. mention caching content from hard to reach sites but does not provide any method for ensuring Clients always get the most up to date content other than by known techniques as already acknowledged in present applicants' Description of Related Art section, incorporated here by reference.

More specifically, Krishnan et al. state that they are disclosing ". . .systems and method for managing cache function of *proxy servers* in *intranets*." Col. 1: ll. 7-8 (emphases added). In this scheme, "...each proxy server is connected to another proxy server through an agent, thereby obviating use of any specialized software in the proxy server to cooperate with another proxy server." Col. 2: ll. 12-15. The latter clause being an express problem Krishnan et al. are concerned with solving. See, col. 2: ll. 2-4. It is thus clear that any management here is strictly on the proxy server side of the Internet. Only already cached content is managed by the "manager 117." See col. 2: ll. 54-56. Plainly, this is not a ". . .subscription manager *in the content server. . .*" which in applicants' scheme (and claim 1) is in another location *across the*

Internet from the proxy server; see e.g., FIGURE 2, "Master Data Service System 30" with "Content Storage 43", or even in FIGURE 1 (Prior Art), th "Remote Server" 18 with cont nt fil 10. Krishnan's agents 122 do prioritization. Col. 2: ll. 16-25. Krishnan's manag r 117 "...*prefetches objects* from the Internet based on past request patterns. . .." Col. 2: ll. 29-31 (emphasis added). Clearly, this has nothing to do with a service at a content server 30 creating proxy server subscriptions for content retrieved, to achieve a guarantee of consistency for a predetermined time, for one or more proxy servers 32 across the Internet 31 as claimed by the applicants. To the contrary, in Krishnan et al., the determination of "...whether the object is outdated..." is merely by looking to "...an expiration date of the object." If stale, it is ignored. Col. 3: ll. 5 et seq. Applicants note this as prior art in the Background section, page 4, line 23 et seq. The agents prioritize the cache via retrieved content lists (col. 3: ll. 30-40, 52-56) and "Manager 117 specifies the criteria for compiling such a list." Col. 3: ll. 43-44, 56-59. Again, this is clearly not the present applicants' scheme.

Thus, it must be recognized that the manager described by Krishnan et al. is not in anyway associated with the content server. The manager must be completely with the control of the ISP. As such, the content owners have no way of knowing what content is cached by the ISP's group of cooperating caches. As a result, Krishnan's scheme is subject to cache-busting by content owners. Furthermore, proxies are not subscribed to anything in Krishnan's scheme; they are completely state-free. While the Web was specifically designed to be state-free in order to enhance scalability, there are drawbacks which the present invention overcomes.

Similarity of language in a reference does not equate to likeness of functionality. Krishnan's own language proves that there is no "subscription manager" as defined in applicants' specification and as claimed. The primary reference fails to stand for at least one proposition asserted by the Office. Therefore, any combination relying on that proposition therewith must also fail *prima facie*. It is respectfully requested that the rejection under Sec. 103 be withdrawn.

While the Action fails to make a case for obviousness just set forth, and further comment is not required by applicants, in order to advance prosecution, applicants also reject the secondary reference, He, as equating to the

"consistency manager also in the content server for notifying all of the subscribed proxy servers that cache the content file to discard the cached content file from thos   proxy servers when the content file is updated in the content s rver." Claim 1 as amended.

He looks at a consistency mechanism for a file system. The specific mechanism proposed is a performance enhancement that is only useful in read-write systems. The Web is a read-only system; Clients can not modify content owner objects. *Prima facie*, there are thus many problems with using He with a Web related system. More specifically, He only describes a scheme for updating objects in a cache, possibly from more than one terminal in real time (col. 2: ll. 7-12; col. 5: ll. 1-2). He is trying to prevent collisions of updates by a locking system which tracks versions and is asynchronous to continued processing during the updates. Col. 5: ll. 2-8. A specific update algorithm is discussed in the cited columns 9 and 10, noting the discussion of "clients A, B, and C" all trying to update the content. Again, though possibly being interpreted, via similarity of language, the functionality is entirely different from that specified and claimed by applicants herein.

Regarding the Dependent Claims 2-7 and Rejections

A dependent claim includes all the limitations of the claim from which it depends and, as such, makes specific that which was general. 35 USC 112; 37 C.F.R. Sec. 1.75(c); Allen Group, Inc. V. Nu-Star, Inc., 197 USPQ 849 (7th Cir. 1978); Ex parte Hansen, 99 USPQ 319 (Pat. Off. Bd. App. 1953). Dependent claims are non-obvious if the independent claims from which they depend are non-obvious. In re Fine, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988); *see also* Hartness International, Inc. V. Simplimatic Engineering Co., 2 USPQ2d 1826, 1831 (Fed. Cir. (1987) to the same effect re novelty). Thus, allowance of a base claim as patentable normally results in allowance of a claim dependent upon that claim.

Applicant reserves all rights without prejudice to file specific arguments should allowance be denied.

SUMMARY AND CONCLUSION

Based upon the foregoing, it is submitted that the application now presents claims which are directed to novel, unobvious and distinct features of the present invention which are an advancement to the state of the art. Reconsideration and early allowance of all claims is respectfully requested. The right is expressly reserved to reassert any and all arguments, including the raising of new arguments, should a Notice of Allowance not be forthcoming.

(4) AMENDMENTS: VERSIONS WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Filed herewith pursuant to Rule 121 is a clean version of the entire set of pending claims remaining after the following amendments have been entered. By comparison, it can be seen that the following amendments are for improvement of language only and are not related to any art cited by the Office.

1. (Third amended) In a data access network system that includes a content server coupled to a plurality of proxy servers via an interconnect network, a system of maintaining content consistency between the content <u>server</u> and proxy servers, comprising:

a subscription manager in the content server [to] <u>for</u> specify<u>ing</u> all of the proxy servers that are subscribed to a content file stored in the content server; <u>and</u>

a consistency manager also in the content server [to] <u>for</u> notify<u>ing</u> all of [the] <u>so</u> subscribed proxy servers that cache the content file <u>when the content file is updated in the content server</u> to discard the cached content file from those proxy servers [when the content file is updated in the content server].
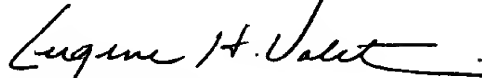
6. (First amended) The system of claim 1, wherein the consistency manager also sends [the] <u>an</u> updated content file to each of the proxy servers via an HTTP PUT request with a DWS SUB header.

Questions or suggestions that will advance the case to allowance may b directed to the undersigned by teleconference at the Examiner's convenienc .

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Respectfully submitt d,
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